

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

Docket No.: PF-0475-2 DIV
 Inventors: Lal et al.
 Title: HUMAN SHORT-CHAIN DEHYDROGENASE
 Serial No.: To Be Assigned

T-DNA SEQUENCE

5'	CT AAC TTT GGC CTG GGA CTC TGC CCC TCT ACC TCA GCA CAG AAT CGC CCC GGG	9	18	27	36	45	54
TCC TAC TAC AGA ATC AAT CCT TGA ACA CTG CCT CCA CGT CGC CGG CTC AAT CTG	63	72	81	90	99	108	
GCG GAG AAC CCA GAC TTC CAC CGC AGC CCC GCA ATC TGC AGA CCT CAG CGG CAG	117	126	135	144	153	162	
CGC AGG TGG CAG ACC TGC CTC CTR TGC CTG TGA GTC ATG GCA GCT CCC ATG AT	171	180	189	198	207	216	
GCG CAA GTG TGT GTG ACT GGT GCC TCC AGG GGT ATT GGC CGT GGC ATT GCC	225	234	243	252	261	270	
G V C V T G A S R G I G R G I A	L Q	C K	A G	T V	H L	D	
TTG CAG CTC TGC AAA GCA GGC GCC ACA GTT TAC ATC ACT GGC CGC CAT CTG GAC	279	288	297	306	315	324	
Q E A Q S L G G Q C V P	333	342	351	360	369	378	
ACC CTT CGC GTT GTT GCT CAG GAG GCA CAA TCC CTC GGG GGC CAA TGT GTG CCT	T L	R V	V A	Q A	Q S	P	

Figure 1A

APPROVED	O.G. FIG.
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387	GTG TGC GAT TCA AGC CAG GAG AGT GAA GTG CGA ACG CTG TTT GAG CAA GTG	405	414	423	432
V V C D S S	Q E S E V R T L F E Q V				
441	GAT CGG GAA CAG CAA GGG CGT CTA GAT GTG CTG GTC AAC AAT GCT TAT GCA GGG	450	459	468	477
D R E Q G R L D V L	V N N A Y A G				
495	GTC CAG ACG ATC CTG AAC ACC AGG AAT AAG GCA TTC TGG GAA ACC CCT GCC TCC	504	513	522	531
V Q T I L N T R N K A F W E T P A S					
549	ATG TGG GAT ATC AAC AAC GTC GGA CTC AGA GGC CAC TAC TTT TGC TCA GTG	558	567	576	585
M W D D I N N V G L R G H Y F C S V					
603	TAT GGG GCA CGG CTG ATG GTA CCA GCT GGC CAG GGG CTC ATC GTC ATC TCC	612	621	630	639
Y G A R L M V P A G Q G L I V V I S					
657	TCC CCA CGA AGC CTG CAG TAT ATG TTC AAT GTC CCC TAT GGT GTG GGC AAA GCT	666	675	684	693
S P G S L Q Y M F N V P Y G V G K A					

Figure 1B

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A	C	GCG	TGT	GAC	AAG	CTG	GCT	GCT	GAC	TGT	GCC	CAC	GAG	CTG	CGG	CAT	GGG	GTC	756
D	K	L	A	A	D	C	A	H	E	L	R	R	H	G	V				
S	C	V	S	L	W	P	G	I	V	Q	T	E	L	L	K	E	H		810
M	A	K	E	E	V	L	Q	D	P	V	L	K	Q	F	K	S	A		864
F	S	S	A	E	T	T	E	L	S	G	K	C	V	V	A	L	A		918
T	D	P	N	I	L	S	L	S	G	K	V	L	P	S	C	D	L		999
A	R	R	Y	G	L	R	D	V	D	G	R	P	V	Q	D	Y	L		1026
																			1017

Figure 1C

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TRANSLATION TABLE

TCT	TTC	AGC	TCT	GTT	CTC	TCA	CAC	GTC	TCC	GGC	CTG	GGC	TGG	CTG	GCC	TCC	TAC	1080
S	L	S	V	L	S	H	V	S	G	L	G	W	L	A	S	Y		
1089		1098		1107		1116		1116		1125		1125		1134				
CTG	CCC	TCC	TTC	CTC	CGT	GTC	CCC	AAG	TGG	ATT	ATT	GCC	CTC	TAC	ACT	AGC	AAG	
L	P	S	F	L	R	V	P	K	W	I	I	A	L	Y	T	S	K	
1143		1152		1161		1170		1170		1179		1179		1188				
TTC	TAA	CCC	TCC	TGG	TCT	GAC	ACT	ACG	TCT	CTG	CTT	GTC	TTC	TCA	TTT	GGA	CTT	
F																		
1197		1206		1215		1224		1224		1233		1233		1242				
GGT	GGT	TCG	TCC	TGT	CTC	AGT	GAA	ACA	GCA	GCC	TTT	CTT	GTR	TAC	CCA	TAC	CCT	
1251		1260		1269		1278		1278		1287		1287		1296				
TGA	TAT	GAA	GAG	AAG	CCC	TCT	GCT	GTC	TGT	CCG	TGG	TGA	GTR	CTG	GGG	TGC	GCC	
1305		1314		1323		1332		1332		1341		1341		1350				
TAG	GTC	CCT	TCT	TTG	TGC	CTT	GGT	TTT	CCT	TGT	CCT	TCT	TTT	TAC	TTT	TTG	CCT	
1359		1368		1377		1386		1386										
TAG	TAT	TGA	AAA	ATG	CTC	TTG	GAG	CTA	ATA	AAA	GTC	TA	3					

Figure 1D

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1 MAAPMNGQVCVTTGASRGIGRGIALQLCKAGATVYITGRH 356351
 1 MGVLQDQVALVTGASRGIGRGIALQLGEAGATVYITGRR GI 2315796

41 - - - - - - - - LDTLRVVAQEAQSLLGGQCVPVVCDSSQES 356351
 41 PELSDNFRLLGLPSLDYVAKETITSRGKGIALYVDHSNNMTE GI 2315796

71 VRTLFEQVDRREQQGRLDVLUVNNAAYAGVQTILNTRNKA 356351
 81 VKFLFEEKIKEDEEGKLDTLVNNVYNNSLGTKATEMIGKTFDFGI 2315796

111 TPA S M W D D I N N V G L R G H Y F C S V Y G A R L M V P A G Q G L I V V I S 356351
 121 QDPSSFWDDINGVGLRNHYCYSVYAAARMVERRKGLIVNVG GI 2315796

151 SPGSLOYMFMNVPYGVGKAACDKLAADCACHELRRHGVS 356351
 161 SLGGLKVKYVFNVAYGAGKEALARMSTDMAVELNPYNVCVVT GI 2315796

191 LWPGIVQOTEILLKEHMAKEE - - - VLQDPVLKOFKSAFSSA 356351
 201 LIPGPVKETANRTIIDDAYKMIKENPEEE - - - IKGE GI 2315796

228 TTTELSGKCVVVALATDPNILSSLSGKVLPSCLARRYGLRDV 356351
 237 STEYTGKALARLAMDPGKLSGKTLFTEDLAQKYDFSDK GI 2315796

268 DGRPV - QDYLSLSSVLSHVSGLGWLASYLPSSFLLRVPKW 356351
 277 HGAAGMEPQNIRSRITLGTMGKEE - VAKYIIPPQIKLPPKWW GI 2315796

306 IALYTSKF 356351
 316 IWQSVPNRF GI 2315796

Figure 2